Louisiana
Office of Information Technology

Technology Innovations Fund Proposal

A Prototype for Centralized E-mail as a Line of Service

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I PROJECT TITLE

Office of Information Technology, A Prototype for Centralized E-mail as a Line of Service

II PROJECT LEADER

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III EXECUTIVE SUMMARY

The State's IT Master Plan calls for an enterprise approach toward the centralization and consolidation of IT services. This creates numerous opportunities for innovative methods to leverage the shared use of hardware, software, and technical resources which have heretofore been managed independently. One such opportunity is viewing core PC desktop applications as a centralized line of service.

This is a request to seed the implementation of a statewide e-mail line of service. The proposed e-mail offering has three primary goals: 1) to build the technical and support framework through which this and other desktop lines of service will be offered, 2) to implement an IT line of service that can provide immediate benefit to core business function that encompasses a large base of the state's workforce, and 3) to develop a deployment plan that can be used for this and other enterprise services to be offered in the future.

Statistics show that more than 6.1 billion e-mail messages are sent every day. On workdays, 53 percent of business users check e-mail at least six times a day, while 34 percent check e-mail constantly throughout the day. This demonstrates that messaging is one of the most mission-critical components to enterprise communication. As Louisiana agencies evaluate their messaging and collaboration platforms for reliability and scalability, and their IT budgets continue to tighten and undergo greater scrutiny, it is becoming more important to choose software that integrates seamlessly with other desktop applications, is scalable, is easy to manage, and provides the lowest total cost of ownership.

The technology required for an advanced and reliable messaging system is complex, costly, and quickly outdated. At present, individual state agencies are responsible for providing their own e-mail service, which entails significant hardware, software, personnel and training expenses (or outsourcing), results in service levels that vary drastically between departments, and provides no integration of services between state departments. The outcome is lost time, lost productivity, and duplication of technical support that is difficult and costly to recruit and retain…. efforts that should be centralized to reduce the overall cost per seat while providing improved service.

The Division of Administration proposes a new approach to providing statewide desktop services, beginning with a cost recovery model for one centrally managed standard e-mail offering to replace the three primary e-mail systems (Exchange, GroupWise, Lotus Notes) currently deployed at 30+ independent agencies. Subscribers will be charged a set price-per-seat that is lower than the costs associated with managing distributed sites statewide, and quality of service will improve.

This project will fund:

- detailed assessment of current agency e-mail support models
- confirmation of a centralized model for statewide e-mail
- implementation of infrastructure to support current Exchange users
- conversion of pilot to the centralized service
- confirmation of hardware, software, and network requirements and cost estimates to support a centralized statewide offering

IV DESCRIPTION OF THE PROJECT

A. Project Narrative

This project develops the framework and initial implementation for an enterprise e-mail system. Specifically, it addresses the budgetary and strategic benefits for supporting a statewide, single e-mail system that will replace the three primary e-mail systems (Exchange, Lotus Notes, GroupWise) currently deployed and supported at over 30 agencies across the state.

A single, standard e-mail solution provides:

- economies of scale by centralizing hardware, software, and technical personnel
- ability to provide one central e-mail directory for all state employees
- facility to provide statewide collaboration efforts
- intra- and inter-department scheduling of personnel and resources (meeting rooms, etc.)
- easier deployment of updates and new technologies
- predictable annual cost per seat for agency budgeting
- simplified end user training and support
- improved cost allocation
- opportunity to provide e-mail service to small agencies who currently negotiate their own outsourced service
- more predictable licensing requirements, that can be used to negotiate enterprise license agreements
- foundation for implementation of other enterprise desktop services
- ability to leverage critical second-tier technical support (ie, server and anti-virus)
- potential for integration with SAP and other collaborative efforts

B. Use of Innovative Technology

This project is an innovative approach to providing an enterprise-caliber line of service to the state's workforce desktops. Once implemented, it can be built upon to ultimately capitalize on centralized directory services, word processing, and facilitate emerging technologies, such as wireless and collaboration. If not implemented, the state's ability to pursue future innovative, enterprise-oriented solutions will be fragmented.

While many states have created e-mail standards, most have not narrowed the list to only one standard mail engine, and few are actually offering a centrally managed statewide e-mail line of service to the various departments.

This is the state's initial project to provide a statewide, desktop line of service. The framework being implemented leverages the concept of centrally managed support facilities with an enterprise technical solution involving SAN-based storage devices, consolidated directories, and a cluster of application servers to provide this key technical service to Louisiana state government.

C. Multi-agency Application or Portability to Other Agencies

This project's main objective is to provide an improved toolset for inter- and intra-agency communication. The funding from this project will begin the process of centralizing e-mail support for agencies who currently use Exchange and will provide the opportunity to service small agencies who currently cannot provide their own technical support (and thus outsource). Future phases will address conversion of GroupWise users, and existing Lotus Notes users. Full conversion is expected to span a period of four years.

D. Benchmarking Partners and/or Best Practice References

Study after study documents the never-ending question within collaborative messaging, "What's better, Notes or Exchange?" Research using GIGA and Technology Evaluation.com confirm the major market players to be Lotus Notes and Microsoft Exchange, with 20-22% market share each. Both are strong vendors and both are expected to continue to improve the scalability and reliability of their products. A Radicati Group, Inc. study conducted in 2001 titled "Messaging Total Cost of Ownership" summarizes the major TCO components for Lotus Notes and Microsoft Exchange for one-year and three-year time periods, and demonstrates how closely the two products rate. The recommendation for a selection comes down to a business decision, based upon functional requirements and integration with existing/planned technology within the enterprise.

The decision factors for selecting Exchange were:

- primary focus on e-mail and calendaring functions
- seamless integration with the State's standard desktop operating system
- integration with the State's standard desktop office suite
- opportunity for reduced license costs based on enterprise-wide licenses, bundled with the operating system and the office products
- opportunity to consider an outsourced service
- anticipated on-going strength and longevity in the market place

Additional research indicates that although most of the consultancies, outsourcers and systems integrators are secretive about pricing, the cost to host e-mail starts at about $20/month. Various models were used to compare practices of large enterprises and comparable government entities to predict ultimate cost savings to the state, and results varied depending upon which factors (tangible vs intangible costs) were used. However, all studies and research predict that a cost savings can be realized by a combined standardization/centralization effort.

E. Long-range Planning

This project is one of the key initiatives included in the State IT Master Plan. It is consistent with the consolidation and centralization efforts of OIT, and the State's strategic alliance with the Microsoft operating system and desktop office suite. In addition, long-term cost savings are envisioned via enterprise licensing agreements.

F. Performance Goal

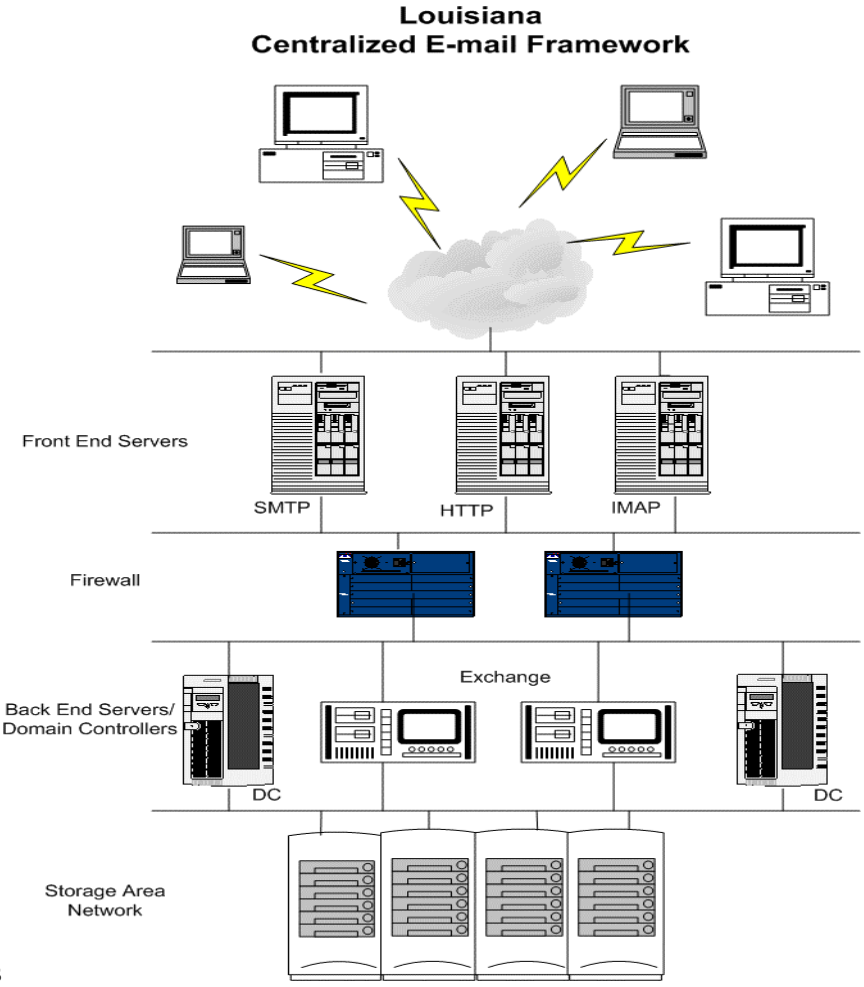
The success of the implementation project will be measured by the percentage of mailboxes supported annually as compared to the total count of e-mail users and the price per seat as compared to industry guidelines for similar offerings.

G. Technical Approach

1. Technical description

The technology anticipated for year one of the project will include the following server hardware and software:

- clustered Exchange servers
- Web server(s)
- SAN
- network backup
- gateway server(s) and conversion servers
- telecommunications circuit(s)
- anti-virus protection at the gateway and the Exchange server- miscellaneous conversion, migration, and management utilities



A consulting contract will be negotiated and will be used to support a detailed design effort.

2. *Interoperability*

The preliminary plan calls for eventual migration of users in the following order over a four year period:

- Exchange (approximately 5,200 users managed by 11 agencies)
- GroupWise (approximately 15,000 users managed by 8 agencies)

- Notes (approximately 8,000 users managed by 3 agencies)

Long-term interoperability or connectivity between these e-mail systems is not expected.

3. S*calability*.

Preliminary estimates indicate that one Exchange server can support 3,000-5,000 mailboxes. Additional servers and SAN disk space will be added to accommodate multiples of 3,000. It should also be noted that while the overall number of servers may not decrease proportionally to the number of agencies centralized, the overall quality of service will be improved by providing hardware fault-tolerance, redundancy, improved security, enterprise-caliber backups, centralized help desk, etc.

4. Maintaining the System.

The system will be managed by the Office of Computing Services. Hardware and software maintenance and technical support will be purchased from the private sector, as needed.

Upgrades and fixes will be tested on parallel test servers and workstations before deployment.

H. Implementation Approach

The following major tasks are planned:

- contract for enterprise-caliber e-mail expertise to assist with design/migration planning
- assign and train state technical personnel
- confirm existing e-mail environment and directory structure for each department
- finalize and publish Exchange server standards
- implement server hardware and software
- identify end user training requirements
- identify the plan for directory synchronization (manual or automated)
- develop an OCS e-mail service agreement
- publish the implementation plan
- convert/conduct pilot(s)
- document cost estimates for years 2-4; create plans for future conversion of GroupWise and Notes clients in years 2-4

I. Assessment of Risks

- availability/assignment of State personnel (or contracted services) with relevant experience in Exchange 2000, SAN, and Active Directory. This will be addressed by providing additional training, borrowing technical resources from participating State departments, and contracting for outside services, if necessary.
- network infrastructure is still evolving. This will be addressed by documenting the current/planned environment with the assistance of OTM, documenting assumptions made, and factoring in estimated connectivity requirements when necessary.
- difficult to predict or test network impact at full implementation. This will be addressed by comparing our environment to other production environments, and contracting with Microsoft for implementation and technical support.
- greater impact of downtime will be offset by redundant hardware and software
- greater impact by disaster will be offset by enterprise-caliber disaster planning

- year one costs can be reasonably estimated. Costs for years 2 – 4 will be finalized by the end of year one.
- the initial estimated number of mailboxes was derived from the CISD compendium for years 2000 and 2001, as well as informal phone audits conducted by OIT staff. Not all departments were represented.
- custom Notes applications with integrated Notes e-mail will warrant advanced notice and attention to unbundle. The Notes users will be the last of the three phases in order to provide them time to reprogram, if necessary.
- Department technical staff who currently support e-mail in agencies will be affected by this implementation. Although their responsibility for server support will go away, agencies will still be expected to provide workstation level support, as well as directory synchronization.
- It is assumed that most departments have in place, or plan to support, the statewide office suite standard.
- Help Desk assistance currently provided in-house will be split between individual departments (for client support) and the service provider (for server support).

J. Integration with Existing Technologies

There are currently more than 5,200 Exchange mailboxes deployed at 11 agencies statewide and more than half of the departments already support the Office suite at some level.

K. Project Budget and Costs

Two alternative budget estimates are submitted. Alternative 1 assumes that the State will provide all of the hardware, software, and personnel to fully administer and support an in-sourced line of service for one year. Alternative 2 assumes that the hardware, software, and administration of e-mail is provided by a third-party application service provider (ASP) . The first major task of this project will be to compare the two alternatives and recommend the best approach, in light of hardware/software investment, TO, flexibility, long-term cost/payment model, competitive opportunity, etc.

Alternative 1 – Insourced

1. *Personal Services*.

PERSONAL SERVICES

Cost Summary:

Item	Quantity	Unit Price	Total
Project Lead	1	60,000	60,000
Tech Spec 2	2	50,000	100,000
Total			**$160,000***

***not included in requested dollars**

2. *Equipment*.

Equipment

Cost Summary:

Item	Quantity	Unit Price	Total
Exchange Server	4	15,000	60,000
Connector Servers (for conversion)	2	12,000	24,000
Web Server	2	13,000	26,000
Gateway Server	2	13,000	26,000
SAN Disk			50,000
Maintenance (20%)			37,200
Total			**$223,200**

3. *Software.*

Software

Cost Summary:

Item	Quantity	Unit Price	Total
Windows 2000	10	1,712	17,120
Exchange Enterprise	4	2,819	11,276
Server Anti-virus	2	14,000	28,000
Backup	4	3,050	12,200
Migration/mgt Utilities		20,000	20,000
Total			**$88,596**

4. *Telecommunications.*

Telecommunications

Cost Summary:

Item	Quantity	Unit Price	Total
Circuit (if needed)	12 months	1,000	12,000
Total			**$12,000**

5. Professional/Contracted Services.

Professional/Contracted Services

Cost Summary:

Item	Quantity	Unit Price	Total
Consulting Services	1,600 hrs	200/hr	320,000
One-time conversion costs	5,200 seats	$50/seat	260,000
Total			**$580,000**

6. Other.

Other

Cost Summary:

Item	Quantity	Unit Price	Total
Training	8 classes	2,600	20,800
Total			**$20,800**

Alternative 2 – Outsourced

1. Personal Services.

PERSONAL SERVICES

Cost Summary:

Item	Quantity	Unit Price	Total
Project Lead	1	60,000	60,000
Total			**$60,000***

***not included in requested dollars**

2. *Equipment*

Equipment

Cost Summary:

Item	Quantity	Unit Price	Total
n/a			
Total			

3. *Software.*

Software

Cost Summary:

Item	Quantity	Unit Price	Total
n/a			
Total			

4. *Telecommunications.*

Telecommunications

Cost Summary:

Item	Quantity	Unit Price	Total
Circuit	12 months	3,000	36,000
Total			**$36,000**

5. *Professional/Contracted Services.*

Professional/Contracted Services

Cost Summary:

Item	Quantity	Unit Price	Total
One-time conversion	5,200 seats	$50	260,000
Monthly per-seat charge	5,200 seats	$20 x 6 mo	624,000
Misc Consulting	120 hours	200/hr	24,000
Total			**$908,000**

6. *Other.*

Other

Cost Summary:

Item	Quantity	Unit Price	Total
Training	2	2,600	5,200
Total			**$5,200**

V FUNDING REQUESTED

FUNDING REQUESTED - Alternative 1

Funding Category	Total Cost	Other Sources	Funding Requested
Personnel	160,000	160,000	
Equipment	223,200		223,200
Software	88,596		88,596
Telecommunications	12,000		12,000
Professional Services	580,000		580,000
Other	20,800		20,800
Total	**$1,084,596**	**$160,000**	**$924,596**

FUNDING REQUESTED - Alternative 2

Funding Category	Total Cost	Other Sources	Funding Requested
Personnel	60,000	60,000	0
Equipment			
Software		0	
Telecommunications	36,000		36,000
Professional Services	908,000	0	908,000
Other	5,200		5,200
Total	**$1,009,200**	**$60,000**	**$949,200**

VI COST/BENEFIT ANALYSIS

According to a Gartner article, titled "Trends for 2002 to 2007: Up the Slope of Enlightenment," the quantifiable benefits of many IT investments are increasingly coming under scrutiny, especially in light of the economic downturn of 2001. One lesson learned is that not all IT investments are created equal in terms of the benefit returned. The article quotes McKinsey's findings that " …applications that have been the most successful are those that are 'industry specific, with direct impact on the core activities of firms, and applied to large sectors and to labor intensive activities'". However, there is little knowledge about how to cost-justify and amortize certain IT investments, e.g., intranets or Internet access, and even new office buildings or management reorganizations. Measuring the business impact of investments is also tricky. "Productivity" may be too narrow a measure, as this does not account for improvements in product and service quality.

In addition, cost allocation data for existing state-run e-mail implementations is not currently captured in a consistent manner, making it impossible to compare current to projected costs.

Benefits and cost savings are anticipated due to:

- economies of scale by centralizing high-caliber hardware and software as compared to the current duplication of server hardware and software at sites statewide
- ability to leverage costly technical training and support
- predictable annual costs per seat
- centrally managed cost allocation data
- enterprise-level pricing for bundled software licenses
- centralized cost allocation

One outcome of this project will be the development of a detailed cost projection that will either support the vision or result in selection of an approach which is cost beneficial.

VII SIGNED STANDARD FORM

_____ Date: _____

_____ Date: _____

_____ Date: _____